

ABSTRACT

The invention disclosed herein related-relates to an improved process for making novel elastomeric polyisoprene articles and a water-based process for making such articles. In particular, the process of the invention is a system which produces articles are synthetic polyisoprene articles cured by an accelerator composition including a dithiocarbamate, a thiazole and a guanidine compound. The resultant article exhibits exhibiting tensile strength properties similar to that of articles produced by solvent-based processes using natural rubber latex. The process comprises an provides for significantly reduced pre-cure process parameters (i.e., lower temperature and shorter time periods than conventionally used), accelerator composition at the pre-cure stage comprising a dithiocarbamate, a thiazole and a guanidine compound. In a preferred embodiment, the accelerator composition comprised includes zinc diethyldithiocarbamate (ZDEC), zinc 2-mercaptopbenzothiazole (ZMBT) and diphenyl guanidine (DPG), in conjunction with a stabilizer, such as sodium caseinate. The invention also includes an encompasses elastomeric polyisoprene products product made by the process, such as a surgeon's glove.